Donations help Fish and Game freeze

When a deer die-off was discovered in the Hollywood Hills area of Los Angeles County last year, wildlife managers reacted quickly to determine the cause. Tissue samples were collected from the deer carcasses, and frozen at minus 70 degrees Fahrenheit. "When tissues are stored in a regular freezer, the environment is not cold enough to keep them from degrading," said Dr. Pam Swift, a veterinarian with the DFG's Wildlife Investigations Lab. Samples collected from deer involved in the die-off were placed in an ultracold freezer to preserve any viruses that may have been present. Once the tissues were frozen and analyzed, researchers were able to isolate the Epizootic Hemorrhagic Disease (EHD) virus, solving the mystery of the Hollywood Hills die-off.

"An ultracold freezer is a necessity for much of the investigative work we do," said Swift. "Deep freezing tissue and sera keeps the biological samples viable indefinitely, allowing us to analyze them long after an animal has died. As we continue to gather and archive samples, our storage needs are growing dramatically."

To help the Wildlife Investigations Lab meet its ultracold storage needs, several hunting conservation groups have stepped forward. The Napa Valley Chapter of Safari Club International donated $1,000 towards the purchase of a new 32 cubic foot minus 86°C freezer. The Granite Bay Chapter of Safari Club International contributed another $1,000, and the California Deer Association donated $3,000. "With the current budget situation for state agencies, it would have been impossible for us to purchase the freezer," said Swift. "The financial assistance we receive from these groups is a real win-win for wildlife."

The thousands of frozen deer biological specimens played a key role in the investigation of an adenovirus outbreak in the mid-1990s. When the disease was diagnosed in dozens of northern California deer, wildlife managers braced themselves for the possibility of a disease epidemic. Researchers tested samples from the lab's frozen serum bank to determine whether California deer had ever been exposed to adenovirus. Sure enough, antibodies were found in deer statewide, dating back to at least 1983. This was a relief because it indicated that deer herds were already coping with the virus without a major decline in deer numbers.

The ultracold freezer will continue to play an important role in disease studies. Not only will it ensure the longevity of the samples that have been collected for more than 25 years, the new ultracold freezer will also provide needed storage for the ongoing collection of specimens for the DFG's Chronic Wasting Disease Surveillance Program.

Tina Moran of the DFG's Wildlife Investigations Lab places biological samples in the new utracold freezer.

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